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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,514	12/05/2001	Kenneth H.P. Chang	SSI004US	6445

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PATENT LAW OFFICES OF DAVID MILLERS
6560 ASHFIELD COURT
SAN JOSE, CA 95120

EXAMINER	
SKED, MATTHEW J	

ART UNIT	PAPER NUMBER
2626	

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/010,514	CHANG, KENNETH H.P.	
	Examiner	Art Unit	
	Matthew J. Sked	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *17-20* is/are allowed.

6)☒ Claim(s) *1,3-6,8-16,21-23,25 and 26* is/are rejected.

7)☒ Claim(s) *7 and 24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 21-25 are rejected under 35 USC 101 as being non-statutory subject matter. The Applicant has amended so the audio data structure is contained on an electronically readable media and argues that this is statutory subject matter. The Examiner respectfully disagrees. As per the "Interim guidelines for examination of patent applications for patent subject matter eligibility", a claim to a data structure is only statutory if stored on a **computer** readable medium (pg. 50). The rejection stands.

2. Applicant's arguments with respect to claims 1, 3-16 and 21-25 have been considered but are moot in view of the new ground(s) of rejection, necessitated by amendment.

3. Claim 2 has been canceled.

4. Applicant's arguments, filed 3/28/06, with respect to claims 17-20 have been fully considered and are persuasive. The rejection of claims 17-20 has been withdrawn.

5. Claim 26 has been newly added.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 21-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 21 is directed to a "data structure" *per se* as recited in the preamble and as such is non-statutory subject matter. Functional descriptive material is nonstatutory when claims as descriptive material *per se*. "When functional descriptive material is recorded on some **computer**-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized." (interim guidelines, page 50, emphasis added) The data structure must be claimed as embedded on a computer-readable media.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 3, 4, 8 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (U.S. Pat. 6,115,687).

As per claims 1 and 21, Tanaka teaches a process and data structure embedded on a computer readable media that allows the computer to perform the process comprising:

preprocessing audio data that includes a sequence of input frames to determine parameters indicating intermediate results in a process for time scaling of respective frames of the audio data, wherein the preprocessing is performed before

commencement of a real-time scaling of the audio data (decoder preprocesses audio data that includes a sequence of frames to determine LPC's, pitch period and voice source information for time-scaling, col. 8, lines 15-33);

providing the audio data and the parameters to a device (parameters provided to the buffer memory, waveform fetching section and synthesis filter of the time-scaling device, col. 8, lines 34-39); and

having the device use the parameters in real-time time scaling of the audio data to generate time-scaled audio, wherein using the parameters in the real-time time scaling requires less processing power than would time scaling of the audio data without using the parameters (voice reproduction rate is converted using the calculated parameters wherein using these parameters reduces the computational complexity, col. 7, line 39 to col. 8, line 8 and lines 40-49).

10. As per claim 3, Tanaka teaches recording the audio data and the parameters on a storage media that the device can read and the device accessing the storage media to read the audio data and the parameters (audio data and parameters are placed in buffer memory or buffered for calculation, col. 8, lines 34-39).

11. As per claims 4 and 26, Tanaka teaches wherein the storage media is a disk (floppy disk, col. 11, lines 18-26).

12. As per claim 8, Tanaka teaches wherein the device performs the preprocessing of the audio data to determine the parameters and stores the audio data and the parameters for later use during the real-time scaling of the audio data (apparatus

calculates the parameters and stores the parameters for real time rate conversion, col. 8, lines 9-39).

13. As per claims 22 and 23, Tanaka teaches wherein the one or more parameters for a frame identify a block of the samples that is used to generate time-scaled data (voice source signal in a frame and pitch period, col. 8, lines 34-39).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka in view of Satyamurti et al. (U.S. Pat. 5,920,840).

As per claim 5, Tanaka does not teach transmitting the audio data and the parameters via a network to the device.

Satyamurti teaches transmitting the audio data to the voice expansion circuitry over a telecommunications network (col. 5, line 52 to col. 6, line 10).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tanaka to use the transmission teachings taught by Satyamurti to transmit both the audio data and the parameters to the device because this would allow the preprocessor to be located remotely from the time scaling device hence preventing any one processor from becoming overloaded.

16. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka in view of Roucos ("High Quality Time-Scale Modification for Speech").

Tanaka does not teach the parameters comprise a plurality of offsets for each input frame, each offset identifying for an associated input frame a block of samples for use in generating time-scaled data from the associated input frame.

Roucos teaches the parameters comprise a plurality of offsets for each input frame, each offset identifying for an associated input frame a block of samples for use in generating time-scaled data from the associated input frame (the speech signal is broken up into frames each with its own offset, sections 2-3).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tanaka so the parameters comprise a plurality of offsets for each input frame, each offset identifying for an associated input frame a block of samples for use in generating time-scaled data from the associated input frame, wherein each offset corresponding to different time scales as taught by Roucos because it would allow for better time-scaling of non-uniform audio input signals.

17. Claims 9-11, 12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka in view of Covell et al. (U.S. Pat. 5,828,994).

As per claims 9-11 and 25, Tanaka does not teach wherein one or more of the parameters classify respective audio contents of the input frames as silence and

processing the input frames that the parameters indicate represent silence differently from processing of the input frames that the parameters indicate are not silence.

Covell teaches the one or more of the parameters classify respective audio contents of the input frames (energy in the speech is a indication of how stressed the sound is, col. 5, lines 22-35) and the parameters identify which of the input frames represent silence (pauses, col. 5, lines 22-35) and processing the input frames that the parameters indicate represent silence differently from processing of the input frames that the parameters indicate are not silence (energy provides an indicator of how much the signal should be compressed, col. 5, lines 22-35).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tanaka wherein one or more of the parameters classify respective audio contents of the input frames as silence and processing the input frames that the parameters indicate represent silence differently from processing of the input frames that the parameters indicate are not silence as taught by Covell because scaling speech and silence at different time scales would give better results.

18. As per claim 12, Tanaka does not teach wherein a voice mail system performs the preprocessing of the audio data to determine the parameters associated with time scaling of the audio data.

Covell teaches wherein a voice mail system performs the preprocessing of the audio data to determine the parameters associated with time scaling of the audio data (used in a voicemail system, col. 3, lines 52-63).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tanaka wherein a voice mail system performs the preprocessing of the audio data to determine the parameters associated with time scaling of the audio data as taught by Covell because it would allow the time-scaling system to be integrated in a well known voicemail system hence making the system more marketable.

19. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka in view of Covell and taken in further view of Applicant's admitted prior art.

Tanaka and Covell do not specifically teach a telephone that receives audio data and the parameters from the voice mail system.

Applicant's admitted prior art teaches that retrieving audio data from a voice mail system is notoriously well known in the art.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tanaka and Covell to receive the audio data and parameters from the voice mail system because this would allow the user to retrieve the compressed audio data from the voice mail system hence giving the voice mail system functionality.

20. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka in view of Applicant's admitted prior art.

As per claims 14 and 15, Tanaka does not teach a server performing the preprocessing of the audio data to determine the parameters associated with time scaling of the audio data and the device comprises a telephone that receives the audio data and the parameters from the server.

Applicant's admitted prior art teaches that the use of time scaling in network systems is well known in the art.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tanaka to perform the perform the time scaling system on a network because this would allow the processing to be distributed on many devices throughout a network hence reducing the workload of the device.

21. As per claim 16, Tanaka does not teach the device comprises a server to perform the preprocessing of the audio data.

Applicant's admitted prior art teaches that the use of time scaling in network systems is well known in the art.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tanaka to perform the perform the time scaling system on a network because this would allow the processing to be distributed on many devices throughout a network hence reducing the workload of the device.

Allowable Subject Matter

22. Claims 17-20 are allowed.

23. Claims 7 and 24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, correcting any 101 issues, including all of the limitations of the base claim and any intervening claims.

24. The following is a statement of reasons for the indication of allowable subject matter: None of the prior art on record teaches "preprocessing audio data to determine one or more parameters **indicating a relation between time scales and offsets** of a frame of the audio data to preceding audio data during a time scaling process". (emphasis added). It would not have been obvious to one of ordinary skill in the art at the time of invention to modify the systems of the prior art to arrive at the Applicant's invention.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Laroche (U.S. Pat. 6,766,300) and Hejna, Jr. et al. (U.S. Pat. 5, 175,769) teach methods for preprocessing audio prior to time scaling.

26. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Sked whose telephone number is (571) 272-7627. The examiner can normally be reached on Mon-Fri (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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06/01/06

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